

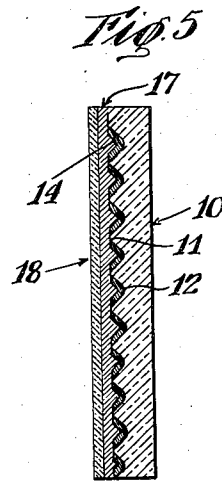
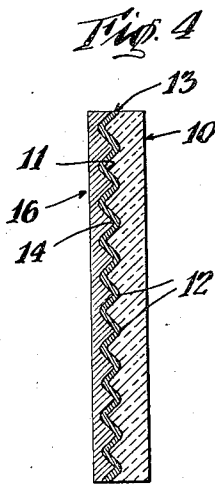
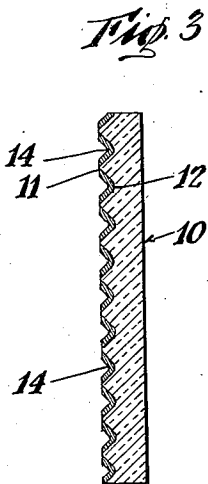
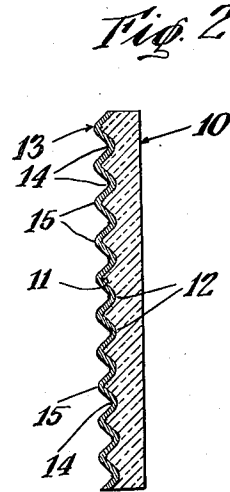
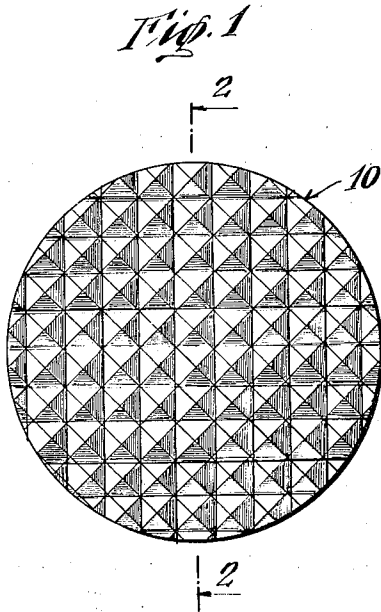
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IMITATION CLOISONNE AND METHOD OF MAKING THE SAME

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IMITATION CLOISONNÉ AND METHOD OF
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16 Claims. (Cl. 41—38)

This invention relates to imitation cloisonné and a method of making the same. Imitation cloisonné made according to this invention is a new decorative material closely imitating the artistic ornamentations of enameled metals and adapted for use in ornamental panels, plaques or the like, and has various other applications to articles of jewelry, handbags, vanity cases and boxes, toilet wear and in fact to any article where ornamentation is desired.

One object of this invention is a simple, and inexpensive imitation of cloisonné.

Another object of this invention is imitation cloisonné having artistic designs of distinctly contrasting colors.

Another object is a method of making imitation cloisonné having patterns of distinctly contrasting color on celluloid.

Other objects will appear from the detailed description which follows.

In accordance with my invention imitation cloisonné is produced by embossing, guilloching, or otherwise impressing, engraving or etching the desired pattern on one surface of a relatively thin sheet of celluloid, preparing the said surface to receive a metallic coating of silver or the like and thereafter either covering said metallic coating with a protective covering or removing selected portions of said metallic coating from the surface of the celluloid and substituting therefor one or more deposits of highly contrasting color, and thereafter where necessary applying a protective covering to the same.

In the drawing comprising but a single sheet of five figures numbered Figs. 1 to 5 inclusive, certain embodiments are set forth.

Fig. 1 is a front view of an imitation cloisonné disc embodying my invention.

Fig. 2 is a vertical section of the disc taken along the line 2—2 of Fig. 1, looking in the direction of the arrows at a certain stage in the process.

Fig. 3 is a vertical section of said disc at still another stage in the process.

Fig. 4 is a vertical section similar to Fig. 2 but with a protective covering applied thereto to complete one embodiment of the invention; and

Fig. 5 is a vertical section of the disc of Fig. 3 carried to the final stage of the process to produce an alternative embodiment of said imitation cloisonné.

Like reference characters designate corresponding parts throughout the several figures of the drawing.

The disc 10 is of celluloid suitably embossed or otherwise impressed, guilloched, etched or engraved to produce any preferred pattern. The pattern thus resolves itself into a series of depressions, indentations or valleys 12, and a second series of raised or relief portions, peaks

or protuberances 11, to which the decorative coating or coatings must be applied. The material may be colorless or tinted with any desired color as preferred according to the ornamental effect desired.

Ordinarily when treated as hereinafter described the material would have a dull or semi-glossed finish. If a high gloss is desired, the disc 10 should be dipped or sprayed with celluloid dip or a solution of celluloid in acetone or some similar solution, and the surface of disc 10 should then be allowed to dry thoroughly. The embossed surface of disc 10 is then washed with a solution of nitrate of zinc or nitrate of tin. A suitable preparation for this purpose (hereinafter designated Formula #1) may be made by mixing one half ounce by weight of nitrate of tin or nitrate of zinc in approximately one quart of tap water. The quantity of water employed will vary dependent upon the degree of hardness of the water used and this depends to some extent upon the quantity of iron contained in the water. When sufficient water has been mixed with the nitrate of tin or nitrate of zinc to produce a milky or turbid appearance no more water need be added.

After washing the embossed surface of disc 10 with the above described preparation (Formula #1) the surface should be wiped off with a cloth or a paper towel and allowed to dry thoroughly. Satisfactory drying can be accomplished at room temperature. After the embossed surface of disc 10 is thoroughly dried, a preparation consisting of silver nitrate, ammonia, alcohol, Rochelle salts and distilled water (hereinafter designated Formula #4), which is prepared as hereinafter described is applied thereto as by pouring, and is allowed to remain upon the surface of disc 10, until the silver has been precipitated over the entire surface including the raised portions 11 and depressions 12, which will receive a coating of silver.

Formula #4 is prepared by mixing substantially equal volumes of two other preparations hereinafter designated for convenience Formula #2 and Formula #3. Formula #2 contains the following ingredients in substantially the following proportions:

Silver nitrate.....	ozs. by weight..	8
Ammonia solution.....	fluid ozs.....	8
Wood alcohol.....	do.....	1
Distilled water.....	gal.....	1

Formula #2 may be prepared by adding about 8 fluid ounces of distilled water to the silver nitrate, then adding the ammonia solution to dissolve the silver nitrate, then adding the wood alcohol, and thereafter adding the balance of the one gallon of distilled water while agitating, until the mixture becomes clear and transparent. The result-

ing preparation is then preferably filtered to remove any foreign matter. Chemically pure ammonia solution and chemically pure wood alcohol are preferred.

- 5 Formula #3 contains the following ingredients in substantially the following proportions:

Rochelle salts-----pounds by weight-- 3
Distilled water-----gallon-- 1

- 10 Formula #3 is prepared by dissolving the three pounds of Rochelle salts in the one gallon of distilled water and filtering the resulting solution.

- Formula #4 is obtained by diluting portions of Formulae Nos. 2 and 3. For example, 6 to 8 fluid ounces of Formula #2 is diluted with sufficient distilled water to make a total of one gallon. Similarly 6 to 8 fluid ounces of Formula #3 is diluted with sufficient distilled water to make a total of one gallon. The diluted preparations are kept separate until used. To coat the transparent celluloid disc 10 with silver, substantially equal volumes of Formulae Nos. 2 and 3 as diluted, are mixed together to produce Formula #4, and a suitable quantity of Formula #4 is then poured upon the embossed surface of disc 10 where it is allowed to remain until the silver has been precipitated over the entire surface of disc 10. The time required for effecting precipitation of the silver will vary according to the particular conditions, but in general a satisfactory silver coating will be precipitated at the expiration of about one half hour. If a heavy silver coating is desired, Formula #4 should be allowed to remain upon the surface of disc 10 for a longer period of time. After the desired silver coating has been formed the remaining liquor is drained off, and while still wet the silver coating is rinsed with clear water to remove any sediment, and when the silver coating has been washed clean, disc 10 is allowed to dry thoroughly. Disc 10 will now be in the condition shown in section in Fig. 2 where the silver coating is indicated generally by numeral 13, the depressions 12 being covered by the silver coating portions indicated generally at 14 and the raised portions 11 of disc 10 being covered by the silver coating portions indicated generally at 15.

When disc 10 is viewed from the front (Fig. 1), or from the right of Fig. 2, it will have a metallic lustre. If the disc 10 is colorless, the lustre will be that of silver, while if disc 10 is tinted, the silver coating 13 will reflect the tint of the celluloid and simulate the lustre of metallic copper, bronze, gold as well as the lustre of other decorative substances such as coral, amber, emerald, ivory, etc. In fact an effect simulating the eye appearance of any embossed or guilloched decorative material can be obtained by selecting a suitably tinted celluloid material.

To protect the silver coating 13 a suitable backing 16 is used (Fig. 4). This backing may be a liquid preparation such as a quick drying paint, lacquer, etc., or any other preferred material. The finished product will present a two tone effect dependent upon the manner of exposure to the light.

Instead of the two tone effect previously described, a highly contrasting effect (such as silver and black, gold and black, silver and red, etc.), can be procured if desired. To produce this effect the disc 10 is treated in the manner previously described until the process has reached the stage where the sediment has been rinsed off with clean water after the silver coating 13 has

been formed. While the silver coating 13 is still wet, its surface is wiped with a clean dry rag and thereafter with a second rag moistened with lemon oil. By these operations the portions 15 of silver coating 13 covering the raised portions 11 of disc 10 will be removed, and the effect shown in Fig. 3 produced. When disc 10 of Fig. 3 is viewed from the right, it will resemble in appearance a series of metallic lines or geometric figures alternating with a series of transparent lines or figures. Any desired contrast of color may now be obtained by applying a suitably colored quick drying paint or lacquer 17 upon the silver coating portions 14 and the raised portions 11 of disc 10. While a suitably colored liquid preparation is preferred for the coating 17, it should be understood that other suitably tinted materials may be substituted therefor if desired. The resulting effect when viewed from the right of Figure 5 will be a mosaic of mirror like lines or geometric figures interspersed or laced with lines or figures simulating tinted enamels, the whole having the eye appearance of cloisonné. The imitation cloisonné disc may be further protected if desired, by backing 18, which may be applied either in the form of a quick drying liquid paint, lacquer or the like etc., or in the form of a suitable cloth or other material. Since the dried silver 14 remains in the depressions or guilloched portions 12 of disc 10 the paint or lacquer 17 will cover only the portions 11 of the celluloid disc 10 where the silver has been removed.

Celluloid tubing may be treated by this process to produce the same effects in the following manner. The tubing should first be washed thoroughly on the inside with Formula #1. This may be done by submerging the tubing in a suitable vat or tank containing a quantity of Formula #1. The inside of the tube should then be rinsed with plain water and allowed to dry. One end of the tubing should now be plugged or sealed, and then filled to the top with Formula #4. After allowing the preparation to remain inside the tubing for a sufficient length of time to precipitate the silver upon the inside thereof, the remaining liquor should be poured out, the sealed end of the tube opened and the inside of the tube thoroughly washed with clean water to remove all traces of sediment. The tube should then be allowed to dry thoroughly. The open end of the tubing should then be sealed or plugged and the tubing filled with a suitable quick drying paint or lacquer which should be poured out of the tubing again almost immediately, allowing only a very thin coating to remain to cover the silver. This coating should then be allowed to dry and set. Any commercial tubing from $\frac{1}{8}$ inch diameter up may be treated in the manner described.

The two color effects previously described may also be obtained by forming the tubing from flat strips of suitably embossed or guilloched celluloid having the edges brought together and cemented to complete the tube. After precipitating the silver upon the inside of the tubing and rinsing it, in the manner previously described, the silver may be removed from the raised portions by passing a wick of suitable diameter moistened with lemon oil through the inside of the tubing, and the tubing may then be filled with liquid paint or lacquer momentarily in order to coat the raised portions 11 of the tubing with paint of contrasting color.

It should also be understood that the em-

bossed or gulloched strips of celluloid may be treated in the manner previously described to form imitation cloisonné and thereafter formed into tubing by cementing the connecting edges.

By using the foregoing process as applied to a smooth sheet of celluloid instead of the embossed sheet as shown in Figs. 1, 2 and 4, a celluloid mirror is made.

While the preferred manner of removing the portion 15 of silver 13, is by the application of lemon oil, it should be understood that the said portions 15 could be removed by the use of an abrasive such as pumice, or rotten stone, and a suitable oil.

What is claimed is:

1. Method of ornamenting embossed celluloid which consists in first washing the surface to be ornamented with a solution containing the nitrate of a metallic salt, allowing said surface to dry, flooding said dried surface with a salt solution of a metal and allowing the same to lie while the metal is uniformly precipitated upon said flooded surface, and removing the liquor and sediment from the metal coated surface.

2. Method of ornamenting celluloid which consists in first washing the surface to be ornamented with a solution containing the nitrate of a metallic salt, allowing said surface to dry, flooding said dried surface with a salt solution of a metal and allowing the same to lie while the metal is uniformly precipitated upon said flooded surface, removing the liquor, rinsing the metal coated surface with water, drying said surface, and thereafter covering said metal surface with a protective backing.

3. Method of ornamenting celluloid which consists in first washing the surface to be ornamented with a solution containing the nitrate of a metallic salt, allowing said surface to dry, flooding said dried surface with a salt solution of a metal and allowing the same to lie while the metal is uniformly precipitated upon said flooded surface, removing the liquor, rinsing the metal coated surface, allowing said metal coated surface to dry, and applying a protective covering to said metal surface.

4. Method of ornamenting celluloid which consists in first washing the surface to be ornamented with a solution containing zinc nitrate, allowing said washed surface to dry, flooding said dried surface with a liquid preparation containing silver nitrate and Rochelle salts and allowing the same to lie while metallic silver is uniformly precipitated upon said flooded surface, and removing the liquor and sediment from the silver coated surface.

5. Method of ornamenting celluloid which consists in first applying celluloid dip to the surface to be ornamented, then washing said surface with a solution containing the nitrate of a metallic salt, allowing said surface to dry, flooding said dried surface with a liquid preparation containing silver nitrate and Rochelle salts and allowing the same to lie while metallic silver is uniformly precipitated upon said flooded surface, and removing the liquor and sediment from the silver coated surface.

6. Method of ornamenting embossed celluloid which consists in washing the surface to be ornamented with a solution containing the nitrate of a metallic salt, allowing said surface to dry, flooding said dried surface with a salt solution of a metal and allowing the same to lie while the metal is uniformly precipitated upon said flooded surface, removing the liquor and sediment from

the metal coated surface, and applying lemon oil with an absorbent material to the moist metallic coated raised portions of the embossed surface to remove the metallic precipitate therefrom.

7. Method of ornamenting embossed celluloid which consists in washing the surface to be ornamented with a solution containing the nitrate of a metallic salt, allowing said surface to dry, flooding said dried surface with a salt solution of a metal and allowing the same to lie while the metal is uniformly precipitated upon said flooded surface, removing the liquor and sediment from the metal coated surface, removing the excess moisture from the metal coated surface, and applying lemon oil with an absorbent material to the metal coated raised portions of the embossed surface to remove the metal coating from said raised portions.

8. Method of ornamenting embossed celluloid which consists in washing the surface to be ornamented with a solution containing the nitrate of a metallic salt, allowing said surface to dry, flooding said dried surface with a salt solution of a metal and allowing the same to lie while the metal is uniformly precipitated upon said flooded surface, removing the liquor and sediment from the metal coated surface, applying lemon oil with an absorbent material to the raised portions of the metallic coating, and backing said embossed surface including the ornamented portion thereof with a layer of protective material.

9. Method of ornamenting embossed celluloid which consists in washing the surface to be ornamented with a solution containing the nitrate of a metallic salt, allowing said surface to dry, flooding said dried surface with a salt solution of a metal and allowing the same to lie while the metal is uniformly precipitated upon said flooded surface, removing the liquor and sediment from the metal coated surface, removing the metallic coating from the raised portions of the embossed surface, and applying a quick drying coating of an opaque substance of contrasting color upon said embossed surface including the ornamented portion thereof.

10. Method of ornamenting embossed celluloid which consists in washing the surface to be ornamented with a solution containing the nitrate of a metallic salt, allowing said surface to dry, flooding said dried surface with a salt solution of a metal and allowing the same to lie while the metal is uniformly precipitated upon said flooded surface, removing the liquor and sediment from the metal coated surface, removing the excess moisture from the metal coated surface, rubbing the raised metal coated portions of the embossed surface with lemon oil to remove the metallic coating from said raised portions, and backing the ornamented surface with a layer of protective material.

11. Method of ornamenting embossed celluloid which consists in washing the surface to be ornamented with a solution containing the nitrate of a metallic salt, allowing said surface to dry, flooding said dried surface with a salt solution of a metal and allowing the same to lie while the metal is uniformly precipitated upon said flooded surface, removing the liquor and sediment from the metal coated surface, removing the excess moisture from the metal coated surface, rubbing the raised metal coated portions of the embossed surface with lemon oil until the metallic coating is removed from said raised portions, and applying a quick drying coating of an

opaque substance of contrasting color upon said embossed surface including said ornamented surface.

- 5 12. Method of ornamenting celluloid tubing which consists in filling the tubing with zinc nitrate solution, rinsing the inside of the tubing with water, drying said tubing, filling the tubing with a liquid preparation containing silver nitrate in solution, retaining said liquid preparation in
10 said tubing until the silver is uniformly precipitated upon the inner wall thereof, emptying the liquor from the tubing, rinsing the inside of the tubing, drying said tubing, filling the tubing with a quick drying liquid adhesive coating, emptying
15 the surplus liquid from the tubing, and drying said tubing.

13. Imitation cloisonné comprising a sheet of transparent celluloid, said sheet having a pattern formed in relief on one surface thereof, a layer
20 of metallic silver adhering to the depressed portions of the said surface, and a coating of opaque material of contrasting color applied to the raised portions of the said surface.

14. Method of ornamenting celluloid which consists in first washing the surface to be ornamented with a solution containing the nitrate of a metallic salt, allowing said surface to dry, flooding
5 said dried surface with a salt solution of a metal and allowing the same to lie while the metal is uniformly precipitated upon said flooded surface, and removing the liquor and sediment from the metal coated surface.

15. Imitation cloisonné comprising a sheet of transparent celluloid, said sheet having a pattern
10 formed in relief on one surface thereof, and a homogeneous layer of metallic silver adhering to the depressed portions of said pattern.

16. Imitation cloisonné comprising a sheet of transparent celluloid, said sheet having a pattern formed in relief on one surface thereof, a
15 film of metallic silver adhering to certain portions of the said pattern, and a coating of opaque material of contrasting color applied to certain other
20 portions of the said pattern.

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